



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,470	03/08/2001	Gavriel J. Iddan	P-3112-US	4915
27130	7590	09/27/2004	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			DIEP, NHON THANH	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 09/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/800,470

Applicant(s)

IDDAN ET AL.

Examiner

Nhon T Diep

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/6/2003; 1/12/200.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 7, 15-16, 30-36, 40-42, 46-47 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901).

The JP 5745833 discloses a gastric camera comprising the same device for in vivo imaging comprising at least one imaging camera, at least one illumination source for illuminating a site in vivo, an optical system for imaging the site in, vivo onto the imaging camera and a transmitter for transmitting video output of the imaging camera (fig. 1, el. 2, 3 and 5); a receiving system for receiving the transmitted video output, an antenna for receiving the transmitted video output and for producing video signals; demodulator; data processing system; which are located outside a patient (page 1, ln. 42-44 and inherently included) as specified in claims 1, 15, 30, 31-35, 36, 40-42, 46-47 and 50. It is noted that JP 5745833 does not particularly disclose one imaging camera is a CMOS imaging camera as specified in claims 1, 15. Adair et al (US 5,929,901) teaches the CMOS imaging camera comprises active pixel circuitry (col. 1, ln. 42-47) as specified in claims 2 and 16; the CMOS imaging camera is an ultra low powered camera and has reduced sensitivity to light in the red spectrum (since CCD camera is

Art Unit: 2613

sensitive to light in the red spectrum, replacing CCD by CMOS will reduce the sensitivity to light in the red spectrum and col. 1, ln. 59-72) as specified in claim 7. Adair et al further teaches there are three most common solid state image sensors include charged coupled devices (CDD), charge injection devices (CID) and photo diode arrays (PDA). In the mid-1980s, complementary metal oxide semiconductors (CMOS) were developed for industrial use. CMOS imaging devices offer improved functionality and simplified system interfacing (col. 1, ln. 23-39). Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to use CMOS camera instead of CCD camera. Doing so would help to reduce the cost of imager.

3. Claims 3-4, 6 and 17- 20, 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901), and further in view of Salvati et al (US 6,393,431).

As applied to claims 1, 2, 15 and 50 above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that CMOS imaging camera comprises a correlated double sampler for processing an analog signal, produced by the active pixel circuitry as specified in claims 3, 17 and 20; and an analog to digital converter having serial output as specified in claims 4, 18 and 20. Salvati et al teaches to use CMOS camera with the digital video processing engine 78 forms the central hub of the instrument which is interconnected to a series of modules, including an imaging module 130, an audio module 140, a video/display module 150, a communications interface module 160 and an illumination control module 170. The imaging module 130 includes at least one lens element, shown diagrammatically as 132, which can be

Art Unit: 2613

located in the instrument and/or instrument head and is aligned with the electronic imager 133 used for directing an optical signal to an electrical signal through a correlated double sampler (CDS) 134 and an A/D Converter 136 for creating a digital signal which is stored into the buffer memory of the digital video processing engine 78 using a timing generator 138 to control shuttering and signal transfer from the imager 133 (col. 10, ln.. 60 – col. 11, ln. 9 and fig. 8, el. 130-134-136). And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by providing a correlated double sampler (CDS) 134 and an A/D Converter. Doing so would help to create a digital signal.

With regard to claims 6, 19-20 and 52-53: It is noted that the combination does not particularly disclose that the CMOS imaging camera comprises an encoding and randomizing unit for defining frame and row parameters and for priming digital signal for transmission. Official Notice is taken with regard to an encoding and randomizing unit for coding video signals as frame and row parameters and priming video signals for wireless transmission. Since encoding video signals and transmitting wirelessly to a remote station are well known features in the pertinent art and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by encoding digital signals and transmitting to a remote station wirelessly. Doing so would help to reduce the bandwidth and the time it takes to transmit video signals while maintaining the quality of images.

Art Unit: 2613

4. Claims 5, 10-14, 23-29, 37-39, 43-45 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901).

As applied to claims 1, 15, 36, 42 and 50 above above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that the CMOS imaging camera comprises an encoding and randomizing unit for defining frame and row parameters and for priming digital signal for transmission; and randomizing the digital signal is performed by randomizing occurrences of 0 and 1 digital signals as specified in claims 5 and 54. Official Notice is taken with regard to an encoding and randomizing unit for coding video signals as frame and row parameters and for randomizing the digital signal is performed by randomizing occurrences of 0 and 1 digital signals (RLC process) and priming video signals for wireless transmission. Since encoding video signals and transmitting wirelessly to a remote station are well known features in the pertinent art and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by encoding digital signals and transmitting to a remote station wirelessly. Doing so would help to reduce the bandwidth and the time it takes to transmit video signals while maintaining the quality of images.

With regard to claims 10-11, 23-24: Official Notice is taken with regard to the optical system comprises an aspherical focusing lens; and at least one collimator for collecting remittent light. The examiner contends that and aspherical focusing lens and a collimator are necessary components of any optical system designed for use inside

Art Unit: 2613

human body and therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to further improve the system of the combination of JP 5745833 and Adair et al by providing aspherical focusing lens and a collimator. Doing so would help to expand viewing angle and collect images.

With regard to claims 12-14, 25-29, 37-39, 43-45 and 55: The transmitter comprises an internal electronic switch for converting a logic of a normally open switch to a normally closed logic; and a control block for controlling the CMOS imaging camera and an illumination source and the control block sends a shutdown signal to the imager to inactivate it and to the transmitter itself to inactivate main capsule subsystems; the control block sends a shutdown signal for a two hour period following activation of the transmitter. These features must be part of the combination of the JP 5745833 and Adair et al in order to take pictures and save power.

5. Claims 8 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901), and further in view of Perkins et al (US 6,106,457).

As applied to claims 1 and 50 above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that the illumination source is a white LED. Perkins et al teaches "as with the other illumination assemblies described herein, other suitable light sources, such as low-power surface-mounted or bulb-type white LEDs, can also be substituted" (col. 15, ln. 40-43). And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by substituting the

Art Unit: 2613

illumination source of JP 5745833 by using white LED source. Doing so would help to provide better images.

6. Claims 9 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901), and further in view of Leising et al (US 6,117,529).

As applied to claim 1 above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that the illumination source comprises a refracting crystal matrix having at least one blue LED chip integrated. Leising et al teaches the using of liquid crystal matrix for refraction and that organic materials which are chemically similar to the oligophenylene or polyphenylene, have proven to be especially suited for blue LED applications (col. 15, ln. 40-43). And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by including refracting crystal matrix having at least one blue LED chip integrated in the illumination system of the combination of JP 5745833 and Adair et al. Doing so would help to provide better illumination source for organic electroluminescence devices and displays.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901) and Salvati et al (US 6,393,431), and further in view of Perkins et al (US 6,106,457).

As applied to claim 15 above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that the illumination source is a white LED.



Art Unit: 2613

Perkins et al teaches "as with the other illumination assemblies described herein, other suitable light sources, such as low-power surface-mounted or bulb-type white LEDs, can also be substituted" (col. 15, ln. 40-43). And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the above by substituting the illumination source of JP 5745833 by using white LED source. Doing so would help to provide better images.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 5745833 (cited by the applicant), in view of Adair et al (US 5,929,901) and Salvati et al (US 6,393,431) and further in view of Leising et al (US 6,117,529).

As applied to claim 15 above, it is noted that the combination of JP 5745833 and Adair et al does not particularly disclose that the illumination source comprises a refracting crystal matrix having at least one blue LED chip integrated. Leising et al teaches the using of liquid crystal matrix for refraction and that organic materials which are chemically similar to the oligophenylene or polyphenylene, have proven to be especially suited for blue LED applications (col. 15, ln. 40-43). And therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of the combination of JP 5745833 and Adair et al by including refracting crystal matrix having at least one blue LED chip integrated in the illumination system of the above combination. Doing so would help to provide better illumination source for organic electroluminescence devices and displays.

### ***Conclusion***

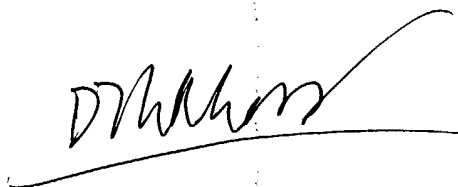
Art Unit: 2613

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ND  
7 Sept 2004



NHON DIEP  
PRIMARY EXAMINER